



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

5

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,990	07/11/2003	Michael D. Gandrud	P06591US0	4246
34082	7590	03/25/2005	EXAMINER	
ZARLEY LAW FIRM P.L.C. CAPITAL SQUARE 400 LOCUST, SUITE 200 DES MOINES, IA 50309-2350			LOPEZ, FRANK D	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/617,990	GANDRUD, MICHAEL D.	
	<b>Examiner</b>	<b>Art Unit</b>	
	F. Daniel Lopez	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 December 2004.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 and 7-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 and 7-11 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 7/11/03 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

***Response to Amendment***

Applicant's arguments filed December 20, 2004, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 1-5 have been considered but are deemed to be moot in view of the new grounds of rejection. The new grounds of rejection (112 rejection of claim 1) are necessitated by the amendment correcting the old 112 rejection.

Applicant arguments essentially traverse the official notice. Therefore, a new 103 rejection is found in this office action, which supplies a reference in place of the official notice.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the control system controlling the proportional control valve based on pressure in the system lines (e.g. claim 1 line 11-14) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of

the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

Claims 1-5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 line 12-13 "activating only the control valve which is connected to the low pressure side" is confusing, since previously only one "control valve" (line 7) is claimed. Suggest that --activating the control valve when the at least one of the system pressure lines is at a low pressure—replace "activating . . circuit" of line 12-14.

Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

***Claim Rejections - 35 USC § 103***

Claims 7-10 are rejected under 35 U.S.C. § 103 as being unpatentable over Gollner in view of Fluid Power Design Handbook. Gollner discloses a loop flushing circuit comprising a hydraulic motor (15) fluidly connected by first and second lines (A, B) to a variable displacement pump (12); a shuttle valve (16) fluidly connected to the motor and to an electrical flow control valve (21); a control means (1) operably connected to the control valve, to open the control valve when pressure in both of the lines is below a threshold pressure (e.g. column 5 line 1-3), in addition to other parameters (e.g. column 4 line 35-50) detected by the control means; wherein the control means is an electrical valve actuator and the control valve is controlled by modulating switch on and switch-off time (e.g. column 5 line 13-16); but does not disclose that the electrical flow control valve is a proportional spool valve.

Fluid Power Design Handbook teaches, that a modulated electrical flow control valve (e.g. discussed on page 82 paragraph 3 and 4) and a proportional spool valve (e.g. discussed on page 82 paragraph 5, and page 84 paragraph 3) are functionally equivalent (e.g. discussed on page 82 paragraph 1).

Since Gollner has a modulated electrical control valve, and since Fluid Power Design Handbook teaches proportional spool valves are functionally equivalent to modulated electrical control valves; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a proportional spool valve for the control valve of Gollner, as taught by Fluid Power Design Handbook, for the purpose of controlling the amount of fluid flushed from the closed loop.

Claims 7-9 and 11 are rejected under 35 U.S.C. § 103 as being unpatentable over Gollner in view of Fluid Power Design Handbook. Gollner discloses a loop flushing circuit comprising a hydraulic motor (15) fluidly connected by first and second lines (A, B) to a variable displacement pump (12); a shuttle valve (16) fluidly connected to the motor and to an electrical flow control valve (21); a control means (1) operably connected to the control valve, to open the control valve when pressure in both of the lines is below a threshold pressure (e.g. column 5 line 1-3), in addition to other parameters (e.g. column 4 line 35-50) detected by the control means; wherein the control means is an electrical valve actuator and the control valve is controlled by modulating switch on and switch-off time (e.g. column 5 line 13-16); but does not disclose that the electrical flow control valve is a proportional poppet valve.

Fluid Power Design Handbook teaches, that a modulated electrical flow control valve (e.g. discussed on page 82 paragraph 3 and 4) and a proportional spool valve (e.g. discussed on page 82 paragraph 5, and page 84 paragraph 3) are functionally equivalent (e.g. discussed on page 82 paragraph 1).

Applicant's discussion of proportional flow control valves (page 7 last line to page 8 line 1) indicate that proportional poppet valves and proportional spool valves are well known, and therefore is considered admitted by Applicant as functionally equivalent. If proportional poppet valves are not well known (i.e. prior art), it is unclear how they can be made, since applicant has not disclosed how to make them.

Since Gollner has a modulated electrical control valve, since Fluid Power Design Handbook teaches proportional spool valves are functionally equivalent to modulated electrical control valves, and since Applicant's Admitted Prior Art teaches that proportional spool valves and proportional poppet valves are functionally equivalent; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a proportional poppet valve for the control valve of Gollner, as taught by Fluid Power Design Handbook and Applicant's Admitted Prior Art, for the purpose of controlling the amount of fluid flushed from the closed loop.

Claims 1-4 are rejected under 35 U.S.C. § 103 as being unpatentable over Meier in view of Gollner and Fluid Power Design Handbook. Meier discloses a loop flushing circuit comprising a hydraulic motor (26A) fluidly connected by first and second lines (including AA, BB, respectively) to a variable displacement pump (14); an electrical flow control valve (52) fluidly connected to one of the lines; a control means (22A) operably connected to the control valve, to open the control valve when pressure in the one line is low pressure side of the loop (e.g. column 4 line 29-62), in addition to other parameters (e.g. column 5 line 10-13) detected by the control means; wherein the control means is an electrical valve actuator; but does not disclose that the electrical flow control valve is a proportional spool valve.

Gollner teaches, for a loop flushing circuit comprising a hydraulic motor (15) fluidly connected by first and second lines (A, B) to a variable displacement pump (12); an electrical flow control valve (21) fluidly connected to one of the lines (by a shuttle valve 16); a control means (1) operably connected to the control valve, to open the control valve based on a plurality of parameters (e.g. column 4 line 35-50) detected by the control means; wherein the control means is an electrical valve actuator; that the control valve is controlled by modulating switch on-and switch-off

Fluid Power Design Handbook teaches, that a modulated electrical flow control valve (e.g. discussed on page 82 paragraph 3 and 4) and a proportional spool valve (e.g. discussed on page 82 paragraph 5, and page 84 paragraph 3) are functionally equivalent (e.g. discussed on page 82 paragraph 1).

Since Meier discloses a control valve which controls a flushing of closed loop, since Gollner teaches modulating a control valve which controls a flushing of closed loop, and since Fluid Power Design Handbook teaches proportional spool valves are functionally equivalent to modulating valves; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a proportional spool valve for the control valve of Meier, as taught by Gollner and Fluid Power Design Handbook, for the purpose of controlling the amount of fluid flushed from the closed loop.

Claims 1-3 and 5 are rejected under 35 U.S.C. § 103 as being unpatentable over Meier in view of Gollner and Fluid Power Design Handbook. Meier discloses a loop flushing circuit comprising a hydraulic motor (26A) fluidly connected by first and second lines (including AA, BB, respectively) to a variable displacement pump (14); an electrical flow control valve (52) fluidly connected to one of the lines; a control means (22A) operably connected to the control valve, to open the control valve when pressure in the one line is low pressure side of the loop (e.g. column 4 line 29-62), in addition to other parameters (e.g. column 5 line 10-13) detected by the control means; wherein the control means is an electrical valve actuator; but does not disclose that the electrical flow control valve is a proportional poppet valve.

Gollner teaches, for a loop flushing circuit comprising a hydraulic motor (15) fluidly connected by first and second lines (A, B) to a variable displacement pump (12); an electrical flow control valve (21) fluidly connected to one of the lines (by a shuttle valve 16); a control means (1) operably connected to the control valve, to open the control valve based on a plurality of parameters (e.g. column 4 line 35-50) detected by the control means; wherein the control means is an electrical valve actuator; that the control valve is controlled by modulating switch on-and switch-off

Fluid Power Design Handbook teaches, that a modulated electrical flow control valve (e.g. discussed on page 82 paragraph 3 and 4) and a proportional spool valve (e.g. discussed on page 82 paragraph 5, and page 84 paragraph 3) are functionally equivalent (e.g. discussed on page 82 paragraph 1).

Applicant's discussion of proportional flow control valves (page 7 last line to page 8 line 1) indicate that proportional poppet valves and proportional spool valves are well known, and therefore is considered admitted by Applicant as functionally equivalent.

Since Meier discloses a control valve which controls a flushing of closed loop, since Gollner teaches modulating a control valve which controls a flushing of closed loop, since Fluid Power Design Handbook teaches proportional spool valves are functionally equivalent to modulating valves and since Applicant's Admitted Prior Art teaches that proportional spool valves and proportional poppet valves are functionally equivalent; it would have been obvious at the time the invention was made to one having ordinary skill in the art to use a proportional poppet valve for the control valve of Meier, as taught by Gollner, Fluid Power Design Handbook and Applicant's Admitted Prior Art, for the purpose of controlling the amount of fluid flushed from the closed loop.

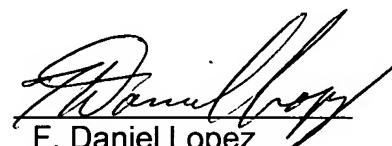
### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (571)-272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is (703) 872-9306. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.



F. Daniel Lopez  
Primary Examiner  
Art Unit 3745  
March 18, 2005